Michigan Department of Transportation 5100B (07/07)

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

Exhibit B

MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)
Nathan VanDrunen	102162	84913

DESCRIPTION IF NO JN/CS

MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL Check the appropriate Tier in the box below			**CONSULTANT:** Provide only checked items below in proposal.
☐ **TIER I ($25,000-$99,999)**	☒ **TIER II ($100,000-$250,000)**	☐ **TIER III (>$250,000)**	
☐	☒	☐	Understanding of Service
☐	☐	☐	*Innovations*
☐	☒	☐	*Safety Program*
N/A	☒	☐	Organization Chart
☐	☒	☐	Qualifications of Team
☐	☒	☐	Past Performance
Not required as part of official RFP	Not required as part of official RFP	☐	Quality Assurance/Quality Control
☐	☒	☐	**Location:** The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	☐	Presentation
N/A	N/A	☐	Technical Proposal (if Presentation is required)
3 pages (MDOT forms not counted) **(No Resumes)**	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP **not including key personnel resumes**

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

☑ BUREAU OF HIGHWAYS ☐ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☐ NO ☑ YES DATED 7/1/08 THROUGH 9/30/08

☑ **Prequalifed Services** – See page 1 of the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalifed Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.

☑ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

****For RFP's that originate in Bureau of Transportation Planning only**, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning **(see address list, page 2)**. The priced proposal must be submitted in a sealed envelope, clearly marked **"PRICE PROPOSAL."** The vendor's name and return address MUST be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☐ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked **"SEALED BID."** The vendor's name and return address MUST be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER	PROPOSAL/BID DUE DATE	TIME DUE
4	12/5/08	4:00 pm

PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

☑ MDOT Project Manager ☐ MDOT Other

Nathan VanDrunen
Bridge Engineer
1420 Front Street NW
Grand Rapids, MI 49504

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail	OR	Lansing Overnight Mail
☑ Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933
☐ Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet
5100G – Certification of Availability of Key Personnel
5100I – Conflict of Interest Statement

(These forms are not included in the proposal maximum page count.)

MICHIGAN DEPARTMENT OF TRANSPORTATION

SCOPE OF SERVICE
FOR
CONSTRUCTION SERVICES
IN-DEPTH BRIDGE INSPECTION

CONTROL SECTION(S): 84913

JOB NUMBER(S): 102162

PROJECT LOCATION(S): Various locations throughout the Grand Region.

DESCRIPTION OF WORK:
Section 3 of the Bridge Inspector's Reference Manual (BIRM) defines an "In-Depth" inspection as a close-up, hands-on inspection of one or more members above the water level to identify any deficiencies not readily detectable using routine inspection procedures. The work defined in this scope is limited to performing an in-depth inspection of various bridge elements and preparing a report that details the inspection findings.
Attachment A contains the anticipated Work Package Listing, but is subject to change based on the needs and priorities of MDOT.

PRIMARY PREQUALIFICATION CLASSIFICATION:
N/A – (See Qualification Requirements)

SECONDARY PREQUALIFICATION CLASSIFICATION:
N/A

The anticipated start date of the service: March 20, 2009

The anticipated completion date for the service: July 31, 2009

DBE REQUIREMENT: N/A

MDOT PROJECT MANAGER:
Nathan VanDrunen
MDOT Grand Region
1420 Front Avenue
Grand Rapids, MI 49503
PH: (616) 451-4884
FAX: (616) 451-0707
E-mail: vandrunenn@michigan.gov

QUALIFICATION REQUIREMENTS:

These in-depth inspections will require an experienced team of structural engineers. The CONSULTANT must provide personnel with qualifications that meet or exceed the requirements stated below. The CONSULTANT must staff the project with the number of personnel necessary to complete the project in the allotted time.

Changes made to the Project Manager/Team Leader that occurs after the authorization must be submitted in writing for MDOT's project manager's approval. Failure to comply with this requirement may result in termination of the contract.

The Project Manager/Team Leader will be responsible for writing the Inspection Report and will be the primary contact with MDOT's project manager.

The following qualifications are the minimum necessary for the required personnel and this must be documented with resumes and submitted with the proposal.

A. Project Manager and Inspection Team Leaders

1. Professional registration as an engineer, licensed to practice in the State of Michigan.
2. Five years of documented experience in the in-service inspections of bridges.
3. Completed the NHI two week class "Safety Inspection of In-Service Bridges" within the last five years. If the team leader(s) has attended this class more than five years ago, he/she must have taken the refresher course within the preceding five years.

Only one manager level position will be allowed and paid on this project.

B. Field Staff assisting the Inspection Team Leaders

1. A technical staff person with three years experience in inspection, design or construction of bridges

or:

2. Recent graduate engineer working at the Staff Engineer or entry level position

The above listed classes for the Inspection Team Leader(s) are encouraged, but not required for Field Staff.

DURATION & SCHEDULE

A. Work Plan & Schedule

The CONSULTANT must review the WORK PACKAGE LISTING to develop a Work Plan that details the process of inspecting the specific elements for each bridge listed. The breakdown of the hours/days of the inspected bridge elements will enable MDOT to coordinate the scheduling for use high reach equipment, lane closures, night work, and MDOT forces to assist with the inspection process.

The CONSULTANT is also required to develop a Project Schedule for the project showing major tasks during the fieldwork and report preparation. The Project Schedule must be

submitted in the form of a Gantt chart showing meeting dates, report submissions, etc. as milestones.

Following is a schedule of target dates for this project:

1. Priced Proposal Submission: February 6, 2009
2. Anticipated NTP: March 20, 2009
3. Project Initiation Meeting: March 27, 2009
4. Draft Report Submission: June 12, 2009
5. Final Report Submission: July 31, 2009

The CONSULTANT must be prepared to begin the field inspection work within two weeks after receiving the Notice to Proceed (NTP). MDOT's Project Manager may stop work at any time and reschedule the field inspection if there are significant disruptions to traffic.

The Work Plan and Schedule will be submitted as part of the Priced Proposal. Changes to the Work Plan or Schedule will be submitted to MDOT's Project Manager for approval. Coordination of lane closures and traffic control will be with the MDOT Project Manager, and the appropriate MDOT TSC. Lane closures will not be permitted during special local events/holidays without prior approval. A list of events, with dates, will be provided to the CONSULTANT for use during the development of the Work Plan and Schedule.

B. Meeting Dates

The CONSULTANT is required to attend a mandatory Project Initiation Meeting and all Progress Meetings. The expected period for these meetings is shown below, however, they may be adjusted, as mutually agreed to by MDOT's Project Manager and the CONSULTANT.

Project Initiation Meeting:	One week after NTP (before beginning any fieldwork.)
Progress Meetings:	(1) Bi-weekly during the Field Inspection Phase (2) At the completion of the "draft" Report

See section MEETINGS for a description of the CONSULTANT's responsibilities.

ADDITIONAL WORK DESCRIPTION:

The work for each bridge is separated into two main components:
A) Site Inspection
B) Report Preparation including supporting documents.

The CONSULTANT will provide an In-Depth structural inspection for each bridge element as listed in the WORK PACKAGE LISTING. The report phase will identify current conditions of the bridge elements, the significance of the findings and make recommendations.

The following provisions are a minimum for this contract. The CONSULTANT may elect to suggest activities in the proposal that will improve the inspection or save costs. These suggestions will need approval from the MDOT PM.

A. SITE INSPECTION

Each bridge must be visited by the CONSULTANT PM and/or Team Leader. The purpose of this visit is to locate all areas of element deterioration, determine feasible repair recommendations, review anticipated traffic control measures and to ascertain quantities. Where necessary, ladders, high-reach equipment, under bridge crane and other miscellaneous equipment may be used to get close enough to adequately inspect and evaluate the structural element. (See Sections EQUIPMENT and SAFETY below).

The information collected in the field must be sufficient to determine quantities to document deterioration and locations of repairs and improvements. This information must be detailed in the field notes, forms, sketches, and photographs as appropriate and is to be included in the report.

During the site inspection, the CONSULTANT shall immediately notify the MDOT PM of any structural condition that may cause the bridge to be load restricted (such as holes in beams), or which may require other immediate action (such as deck soffit or fascia scaling, lane closures, emergency repairs, temporary supports, etc.). If the MDOT PM is unavailable, the CONSULTANT will contact the Associate Region Engineer of Development at (616-451-3091) and the appropriate Transportation Service Center (TSC) Maintenance Engineer. The CONSULTANT will provide documentation of the condition (beam measurements, pictures taken, etc.) to MDOT as quickly as possible. A list of contacts and their jurisdictions will be provided at the project kick off meeting.

1. Steel Beam End Inspection

For the structures listed in the WORK PACKAGE LISTING requiring Steel Beam End Inspection, below are the minimum items to be completed:

a. All dirt, debris, and rust scale must be removed from the ends of each of the steel beams under all joints at piers and abutments. The steel shall then be inspected for section loss. Areas where section measurements are to be taken shall be cleaned by means of hand tools to a SSPC SP3 degree of cleanliness. Thickness readings on the web and the bottom flange are to be taken at the thinnest locations within 5 feet of the end of the beam.

These thickness readings will be compared with the original thickness and the percentages of section loss will be calculated (MDOT will supply the CONSULTANT with existing plans if available). This data will be tabulated in a specific format (as shown in ATTACHMENT - B, Steel Beam Section Loss Detail). If beam end repairs are necessary, then a plan of the super-structure must be made showing the location of the beam ends needing repair. This information can be shown on sketches showing size, shape, dimensions, and edge distances for each element with loss of section and shall be presented in the Appendix of

the report.

b. On structures with pin and hanger assemblies, the beam ends shall be cleaned as described in section **1.**a. Thickness readings on the web and the bottom flange are to be measured at the thinnest locations within 2 feet of the end of the beam. Thickness readings must also be measured at the pin plates. If these are areas of heavy flaking rust, the CONSULTANT will clean as necessary to measure for any section loss. Structures with riveted pin plates shall be inspected and measured for section loss. If this is not feasible with an ultrasonic thickness gage due to material build up or bulging between the plates, the CONSULTANT shall notify the MDOT PM, and note it in the report. Check pin and hanger assemblies for proper operation. Does the pin and hanger meet current standards? Note the condition of the pin plates, and if the beam ends are in contact due to pin and hanger closure.

c. The CONSULTANT shall note the condition of all other steel superstructure elements including but no limited to stiffeners, intermediate diaphragms, end diaphragms, pier diaphragms, cross frames, other lateral bracing and bearings including sole plates and masonry plates. These elements shall be thoroughly inspected, and cleaning may be required.

d. The CONSULTANT shall visually check for fatigue cracking on fatigue prone details such as welded cover plates, diaphragm connections, or any welding in tension zones that are transverse to the plane of stress. Dye penetrant use is required if there is a crack or suspected crack. This must be clearly documented with narrative and photographs. The consultant must inform the MDOT PM prior to testing so that arrangements to witness the process can be made.

e. All surfaces where paint has been removed to bare steel shall be coated with primer prior to leaving the site.

2. Concrete Beam Inspection

For the structures listed in the WORK PACKAGE LISTING requiring Concrete Beam End Inspection, below are the minimum items to be completed:

a. Reinforced Concrete Beams

Sound all reinforced concrete beams for delamination and unsound areas. All delaminated areas are to be marked out with chalk paint that will be evident in the photos. Sketches for each beam mapping the area of distress (cracks, delaminations, spalls etc.) are to be included in the appendix of the report. The percent total surface area distressed shall be calculated and shown on each sketch. Visually inspect all reinforced concrete beams for signs of cracking, spalling, exposed reinforcement and material defects. Check for flexural cracks and shear cracks. Note the condition of the end diaphragms and intermediate diaphragms. Note previous repairs. Pictures of the reinforced concrete beams must be taken and a written description of the deterioration

and location must be documented for inclusion into the report.

b. Prestressed Concrete Beams
Visually inspect all prestressed concrete beams for signs of cracking, spalling, exposed reinforcement and material defects. Check for flexural cracks and shear cracks. If prestressing strands are exposed it must be noted whether the strands are severed. Note the condition of the end diaphragms and intermediate diaphragms. Note previous repairs. Sketches for each beam mapping the area of distress (cracks, delaminations, spalls etc.) are to be included in the appendix of the report. Pictures of the prestressed concrete beams must be taken and a written description of the deterioration and location must be documented for inclusion into the report.

3. Concrete Deck (Surface/Underside)

For the structures listed in the WORK PACKAGE LISTING requiring Concrete Deck (Surface/Underside) inspection, below are the minimum items to be completed:

a. The concrete deck surface/underside, barrier walls, and fascias will be inspected for wet areas, spalling, map cracking, delamination, rust along beam edges or any other evidence of deterioration.

b. The concrete deck surface/underside, barrier walls and fascias will be sounded with a hammer or chain drag. Delaminated, spalled, and cracked areas will be marked with chalk or chalk paint to be visible in photographs **(The use of permanent paint is prohibited)**. Photos and/or sketches of the areas must be taken showing the areas of deterioration and a written description of the findings must be documented for inclusion into the report.

c. The percentage of each type of deck surface and soffit deficiencies will be noted in the report.

d. Note as to whether the deck has previously been overlaid and if so, when and what type of material appeared to be used.

4. Substructure

a. Sound all substructure concrete elements (pier columns, caps, abutments, backwalls, etc.) for delamination and unsound areas. All delaminated areas are to be marked with chalk or chalk paint to be visible in photographs **(The use of permanent paint is prohibited).** Photos or sketches for each substructure element mapping the areas of distress (cracks, delamination, spalls, etc.) and a written description of the findings must be documented for inclusion into the report.

b. Visually inspect all substructure units for signs of settlement, lateral movement, cracking, spalling, exposed reinforcement and material defects. Visually examine fractured concrete to determine if it contains slag aggregate. Note the condition

of the backwalls, and check the bridge seat for undermining at bearing locations. For pier caps, check for flexural cracks and shear cracks. Note areas of previous repairs.

c. The percentage of the total surface area distressed shall be calculated and noted in the report.

5. Non Destructive Testing

The CONSULTANT may determine that other non-destructive testing beyond what is mentioned in the Scope of Services is needed to make a better judgment. However, such testing (ultrasonic, magnetic particle testing, acoustic emission, etc.) must be approved by MDOT's PM. If the project manager approves the test, the CONSULTANT must submit a testing proposal. The testing proposal will show what tests are to be performed, what specific information is to be gained from testing and how the information is to be used. Proposals submitted with insufficient information will be denied.

B. REPORT

The deliverables for this scope of work will be the reports, photographs, printed worksheets, sketches, and notes. The report must include descriptions and observations of the inspection procedures, and conditions found during inspection.

Two (2) draft copies of each report will be provided to the MDOT PM. One of these will be marked up by MDOT with comments and returned to the CONSULTANT for review. A progress meeting will be held with the MDOT representatives and the CONSULTANT to review and discuss comments. The CONSULTANT will then incorporate revisions into the final report. MDOT reserves the right to request additional drafts for review if, in the opinion of the MDOT PM, the changes required are extensive. The contract will be unsatisfactory if the CONSULTANT fails to make changes to the report as required by the MDOT PM.

The CONSULTANT will submit two (2) 3-ring bound copies of the final report. The final report will also contain one Compact Disk (CD) with electronic copies of the final report and photographs.

1. Part 1

Part 1 of the binder is intended to eliminate repetition of the information common to each bridge. Each section will be divided by tabs showing the section name. Each page shall contain a footer with the Consultant's name and date in the lower right hand corner.

a. **Table of Contents**

b. **General Site Review Procedures**

This section will summarize the general procedures used during the site reviews. This information will include a table showing the site review dates for each

bridge, bridge elements inspected, equipment used, traffic control procedures and site review procedures. Any significant variations from this typical information, can be stated in the **Site Review Findings** section for a specific bridge.

2. Part 2

Following the general information will be a section containing the information specific to each bridge. Each section will be divided by tabs. Each page shall contain a footer with the Consultant's name and date in the lower right hand corner.

a. Site Review Findings:

This section will include as a minimum, discussion of the following areas:

1) Overall assessment of the condition of the bridge elements. Elaborate on the type, quantity and percent of the deficiencies.
2) Sketches of the bridge elements identifying size and location of the distressed areas.
3) Site issues, i.e., geometrics, maintenance of traffic, utilities, scour, etc. If no site issues that would impact the rehabilitation of the structure were identified, a statement is to be made that all areas were investigated and no issues were found.
4) Testing results and implications to the repair options. If no testing was performed, this will be stated in the report.

b. Recommendations:

Based on the findings of each structure, submit repair recommendations within the reports. The repair recommendations shall include, but not be limited to, the location and type of repair warranted, the applicable quantities, and the level of urgency of the repair.

c. Photographs:

All photos will be in digital format. A photo log of the bridge and the surrounding areas must be included in the report. All pictures must be printed on 8 ½" x 11" media with a maximum of two photos per sheet and labeled with a description.

d. Field Notes and Sketches

e. Lab Test Reports (if applicable)

MEETINGS

A mandatory Project Initiation Meeting will be held with the CONSULTANT before the start of the site inspection work. The CONSULTANT PM will be required to attend the meeting that will be held at the MDOT, Grand Region Office or at a location that is mutually agreed to.

The Project Initiation Meeting is intended to exchange information, discuss the general procedures for communication, and review the schedule. Safety and applicable emergency

procedures will also be discussed, as well as open questions that remain. Additional MDOT Region and Statewide staff may attend the meeting.

Bi-Weekly Progress Meetings will be held during the field inspection phase. The Team Leader and inspection staff is expected to attend these meetings. An additional Progress Meeting will be held at the completion of the "draft" Report. The CONSULTANT PM and Team leader are expected to attend this meeting. These meetings will be held at the MDOT, Grand Region Office or at a location that is mutually agreed to.

The CONSULTANT will keep notes of these meetings and provide minutes to the MDOT PM within one week after the meeting.

EQUIPMENT

The CONSULTANT will be responsible for obtaining and operating the high reach equipment for inspection under the bridge. However, MDOT will provide an under bridge inspection crane for the CONSULTANT's use in certain situations, for example, high river and railroad crossings.

Contact the MDOT PM a minimum of 21 days in advance for scheduling use of the equipment. The schedule of structure inspections may need to be modified depending on statewide availability of the under bridge crane. During the inspection, the Consultant is responsible for traffic control and all aspects of personal safety of his or her staff.

The CONSULTANT must provide the following equipment as suitable for the inspection of the bridge. The cost of the use of this equipment during the inspection is considered included in the Not to Exceed price.

1. Bucket Truck

The CONSULTANT will use a hydraulic manlift to gain access to the underside of the bridges that are not over water. The unit must be capable of quickly positioning the inspector to any location on the underside of the bridge for inspection or to prepare the area for inspection or NDT. Ladders will only be allowed for infrequent use where they will be faster than the manlift.

The CONSULTANT will be responsible for insuring the vehicle is safe for operation and is operated in a safe manner utilizing all required safety equipment.

2. NDT

The inspection process does not require a lot of testing but sounding concrete for delaminations, checking for suspected cracks in steel, and measuring for section loss in areas of heavy corrosion is required.

The following equipment is necessary to perform these tests:

- Calipers and thickness gauges
- Dye penetrant test kit

- Chain drag or sounding rod or hammer

3. Cell Phone

While in the field, the Team Leader must have a celluar telephone. These numbers must be provided to the MDOT PM at the Project Initiation Meeting.

4. Camera

The CONSULTANT must have a digital camera that can clearly record the images necessary to convey the condition of the bridge.

5. Hand Tools

The CONSULTANT must provide the hand tools necessary to complete the inspection. Some of these are ladders, waders, hammers, lighting, marking chalk paint, measuring tapes, etc.

TRAFFIC CONTROL

A. Traffic Control & Permits

The traffic control during the site review will be the responsibility of the CONSULTANT. Permits for the traffic control and for working in the MDOT Right of Way must be obtained from the appropriate TSC prior to the start of work. Traffic control will follow standard MDOT procedures and typicals. The CONSULTANT will be responsible for obtaining all permits and notifying the appropriate TSC Permit Engineer in writing (with a copy to the MDOT PM) of the time and location of the work. A copy of the proposed traffic control must also be submitted for approval with the permit. Nighttime lane closures for deck inspection may be allowed at the discretion of the MDOT TSC Traffic and Safety Engineer. Approval for nighttime work must be obtained prior to the start of work.

B. Railroad Flagging & Permits

If it is necessary to work over an active railroad during the site review phase, the CONSULTANT will be responsible for obtaining the necessary permits and flagmen. Costs for any permit fees or flagmen fees will be considered an expense and must be detailed in the traffic control section of the Proposal and on the invoice.

C. Region Traffic Control Requirements

A list of road specific lane closure durations and time restraints will be distributed at the project initiation meeting.

SAFETY

MDOT requires safe working operations. The CONSULTANT shall perform field operations in accordance with MIOSHA regulations and accepted safety practices.

The CONSULTANT must provide all of the necessary personal safety equipment (hard hat, reflective vest, steel toed shoes, eye protection, etc.) for each employee at the work site. All

equipment must be in sound working order, meeting applicable inspections for safe operation.

It is not the responsibility of MDOT to verify the CONSULTANT's safety practices. However, the MDOT PM has the authority to have any individual who is found working unsafely, during the inspection services associated with the project, removed from the MDOT right of way. If the CONSULTANT is found to be working unsafely, the MDOT PM can stop all operations and terminate the contract.

EXISTING RECORDS AND DATA

MDOT will furnish the CONSULTANT access to any available pertinent information related to the structure(s) being inspected.

Information furnished to the CONSULTANT shall not be released or distributed to any outside agency without prior written permission from the MDOT PM.

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee.

All billings for services must be directed to the Department and follow the current guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

GENERAL

Release of information: The CONSULTANT may not release any information about the bridge or the inspection to anyone outside of MDOT. The CONSULTANT is not allowed to make copies of the information in the bridge files unless given prior written approval from the MDOT Project Manager.

References and Guidelines: The CONSULTANT is expected to be familiar with the following reference material:

- AASHTO Publications:
  Manual for Condition Evaluation of Bridges
  AASHTO Manual for Maintenance Inspection of Bridges
- Federal Highway Administration (FHWA) Publications:
  Inspection of Fracture Critical Bridge Members
  Bridge Inspectors Reference Manual (BIRM)
  Underwater Inspection of Bridges
- National Bridge Inspection Standards (NBIS)
- American Welding Society
- MDOT Traffic and Safety Workzone Typicals
- Manual on Uniform Traffic Control Devices for Streets and Highways

APPENDICES

ATTACHMENT A – WORK PACKAGE LISTING

ATTACHMENT B – Detailed Beam Survey Report

Attachment A - Work Package Listing

Bridge ID	Facility Carried	Featured Intersection	Location	Year Built/Overlay	NBI Inspection Date	Comments
34044-S10	Cutler Road	I-96	2.9 miles NW of Clinton Cnty Line	1957	10/30/06	Lane closures allowed off-peak only for I-96.
41024-S04	Whitneyville Ave	I-96	4.7 MI E of M-11	1959/1980	03/26/07	Lane closures allowed off-peak only for I-96.
41024-S06	M-50	I-96	@ M-50	1959/1980	04/04/07	Lane closures allowed off-peak only for I-96.
41026-R013	I-96 EB	GTW RR	Walker	1961/1981	06/25/08	RR Coord, Lane closures allowed off-peak only for I-96.
41026-R014	I-96 WB	GTW RR	Walker	1961/1981	06/25/08	RR Coord, Lane closures allowed off-peak only for I-96.
41027-B02	I-196EB, M-21	Grand River	In Grand Rapids	1964/1996	09/12/06	Lane closures allowed off-peak only for I-196.
41029-S05	I-196WB RAMP TO M11	I-196EB	In Grandville	1965	07/18/06	Lane closures allowed off-peak only for Ramp.
41029-S13	I-196 EB	M-45 EB Ramp to I-196 WB	In Grand Rapids	1964	11/14/06	Lane closures allowed off-peak only for I-196 & Ramp.
41081-B01	M-45 (Fulton Street)	The Grand River	In Grand Rapids	1927/1976	08/21/08	
41131-R04	US-131	CSX RR	In Grand Rapids	1962/1987	05/24/07	Lane closures allowed on weekend only for US-131.
41131-S14	US-131 SB	Bridge Street	In Grand Rapids	1962/1963	06/05/07	Lane closures allowed on weekend only for US-131.
61072-S04	M-46 (Apple Ave)	US-31	at M-46	1960	08/16/07	Lane closures allowed off-peak only for US-31 & M-46.
61075-S05	Russell Road	US-31	2.6 Miles North of M-120	1964	11/30/06	Lane closures allowed off-peak only for US-31.
61151-B023	I-96BS EB	Black Creek	1.3 MI NW of US-31	1957/1981	09/05/07	
61151-B024	I-96BS WB	Black Creek	1.3 MI NW of US-31	1957/1981	09/05/07	
70064-S01	Apple Drive	I-96	2.5 MI SE of Muskegon Co L	1961	07/08/08	Lane closures allowed off-peak only for I-96.

ATTACHMENT B – Detailed Beam Survey Report

DETAILED BEAM SURVEY REPORT

USE THIS FORM WHEN TRAFFIC ON BRIDGE IS: *WEST BOUND and EAST BOUND*

MDOT Michigan Department of Transportation
Form 0267 (08/02)

INSPECTED BY: _____ DATE: _____

STRUCTURE NO. _____ REGION _____

FACILITY CARRIED _____ TOTAL SPANS: _____

Feature INTERSECTED _____ TOTAL PIERS: _____

total photos attached to booklet: _____

ERECTION DIAGRAM

follow NUMBERING SYSTEM as shown
per traffic of road over

COMMENTS _____

attention
original >>>
provide copy >>>
copy >>>
copy >>>

BRIDGE OPERATIONS UNIT, CONSTRUCTION AND TECHNOLOGY DIVISION, PH. (517) 322 - 1398 FAX (517) 322 - 5664

DETAILED BEAM SURVEY REPORT

USE THIS FORM WHEN TRAFFIC ON BRIDGE IS: *SOUTH BOUND and NORTH BOUND*

MDOT Michigan Department of Transportation
Form 0267 (08/02)

INSPECTED BY: _____ DATE: _____

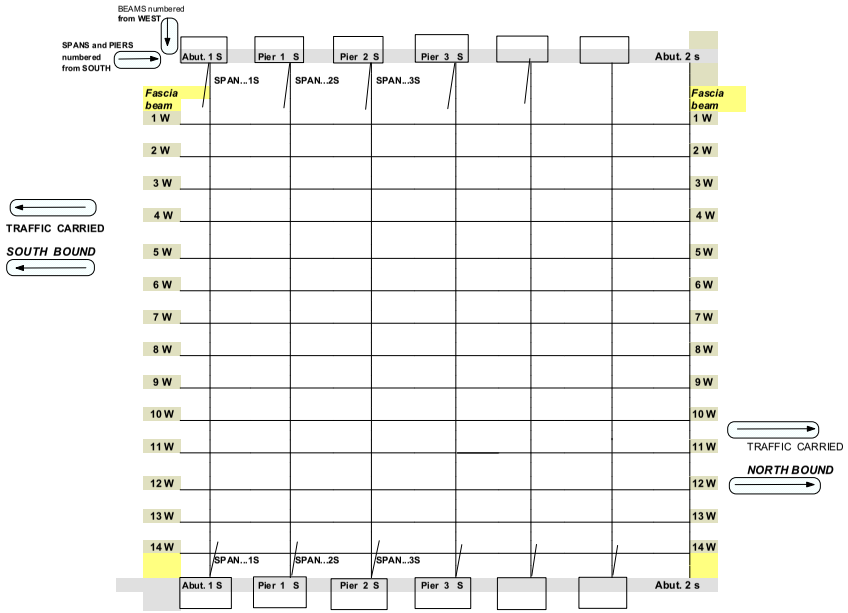
PAGE_____OF_____ (booklet total)

STRUCTURE NO. _____ REGION _____

FACILITY CARRIED _____ TOTAL SPANS: _____

Feature INTERSECTED _____ TOTAL PIERS: _____

total photos attached to booklet: _____



ERECTION DIAGRAM

follow NUMBERING SYSTEM as shown
per traffic of road over

COMMENTS _____

attention:
original >>>
provide copy >>>
copy >>>
copy >>>

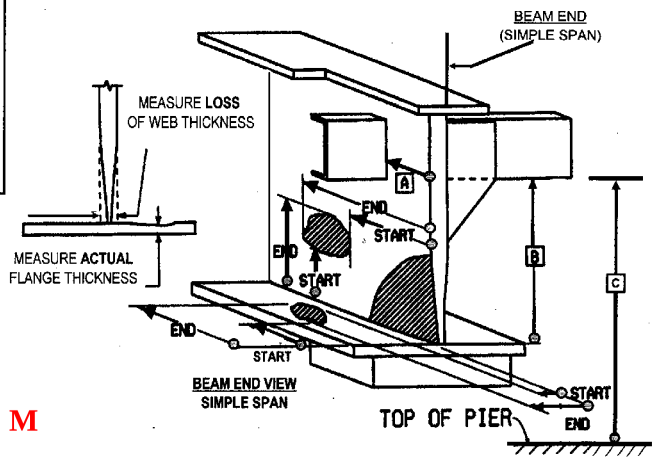
BRIDGE OPERATIONS UNIT, CONSTRUCTION AND TECHNOLOGY DIVISION, PH. (517) 322 - 1398 FAX (517) 322 - 5664

GUIDE TO MEASUREMENTS AND DETERIORATION

DETAILS REQUIRED

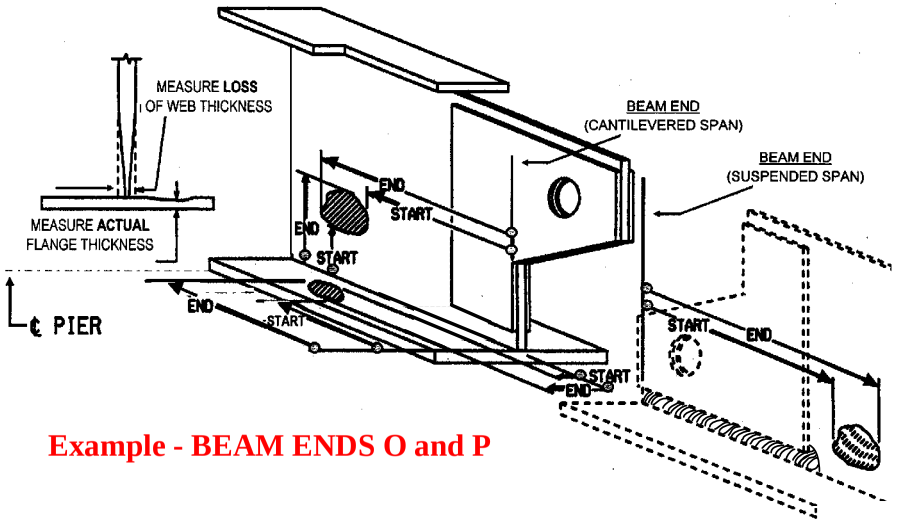
MDOT Michigan Department of Transportation
Form 0267 (08/02)

DETAILED BEAM SURVEY REPORT



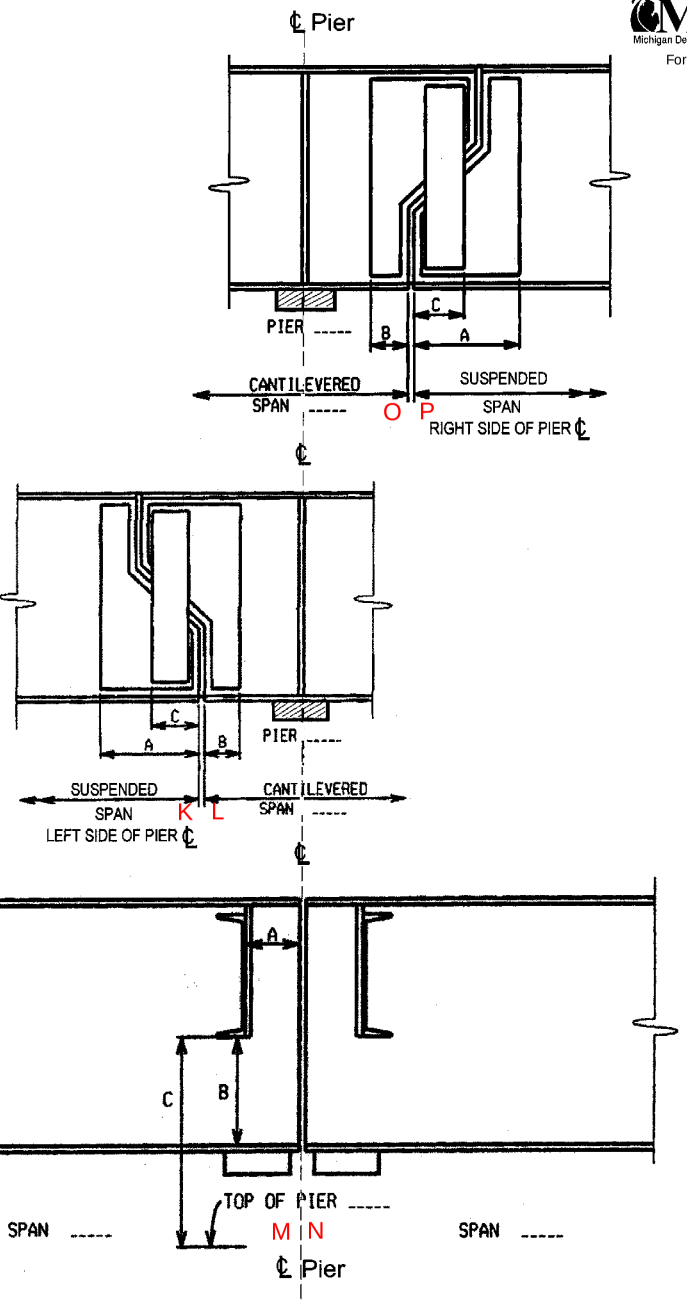
Example - BEAM END M

A DISTANCE FROM END OF BEAM TO DIAPHRAGM
B DISTANCE FROM BOTTOM OF DIAPHRAGM TO TOP OF BOTTOM FLANGE
C DISTANCE FROM BOTTOM OF DIAPHRAGM TO TOP OF PIER (OR ABUTMENT)



Example - BEAM ENDS O and P

MDOT Michigan Department of Transportation
Form 0267 (08/02)



DETAILED BEAM SURVEY REPORT
FORMS (0267, 0267-1, 0267-2)
INSTRUCTIONS

FORMS NEEDED

Form 0267 is the cover sheet and one (1) is needed for each bridge regardless of orientation.

Form 0267-1 is for EB or WB bridges. You will need 1 form for each substructure unit that is near beam ends to be reported.

Form 0267-2 is for NB or SB bridges. You will need 1 form for each substructure unit that is near beam ends to be reported.

PRINTING FORMS

The forms are available on the MDOT Interchange Home (http://interchange/finadmin/formsmgt)

From the MDOT Home Page:
1- Click on MDOT Forms Services
2- Click on All Forms List
3- Scroll down to form desired (0267, 0267-1, or 0267-2) and click on “Printable”.
4- Click the Print icon from the Acrobat tool bar.
5- In the Properties window, make sure that paper size is 11x17 and orientation is landscape
6- Print the form

FORM 0267

On this sheet, record the bridge identification and location information, the inspector’s name, and the date of inspection. Sheet 0267 will always be sheet 1 of the final report.

For WB and EB bridges:
- Fill in the information on the left side of the form
- Cross out the right side of the form
- Beams are numbered from south to north
- Spans are numbered from west to east
- If more than 14 beams, use a second sheet for beams 15S, 16S, etc.
- If more than 6 spans, use a second sheet for spans 7W, 8W, etc.
- Add dashed lines as needed to specify locations of pin and hanger assemblies.

For NB and SB bridges:
- Fill in the information on the right side of the form
- Cross out the left side of the form
- Beams are numbered from west to east
- Spans are numbered from south to north
- If more than 14 beams, use a second sheet for beams 15W, 16W, etc.
- If more than 6 spans, use a second sheet for spans 7S, 8S, etc
- Add dashed lines as needed to specify locations of pin and hanger assemblies.

FORM 0267-1 OR 0267-2

Print one of these forms for each substructure unit that is near an area of losses. Number the sheets in ascending order of span number, following the convention established on form 0267.

For each form:

Enter the number of the pier in the center column.

Enter the span number on each side of the pier. For example, pier 1 will have span 1 to its left and span 2 to its right.

For abutments, cross out the word “PIER” and substitute “ABUT1” or “ABUT2" as appropriate. One half of the form will contain data for the span leading up to the abutment. Cross out the other half of the form for abutments.

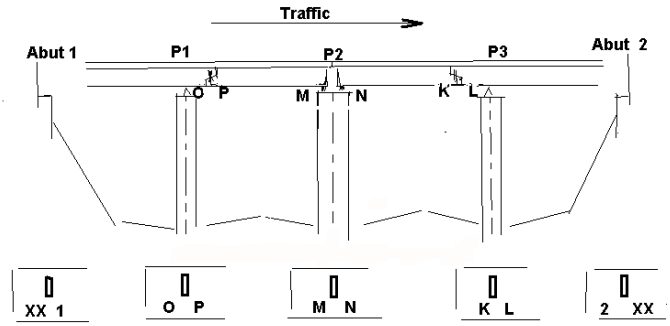
If more than 14 beams, use another sheet using the same number as before but indicate “CONTINUED”. Start with beam 15S or 15W as appropriate.

The wide columns at the far left and far right of these forms are for comments, references to photos, sketches, etc.

For piers without pin and hanger assemblies, circle “M” and “N” at the bottom of the form.

For piers with pin and hanger assemblies, circle “K” and “L” if the pin lies in the preceding span, circle “O” and “P” if the pin lies in the following span.

EXAMPLE BRIDGE



SHEET 2 *SHEET 3* *4* *5* *6 ...*

Abutment 1- Say no losses, no need for a sheet for this abutment. But note on form 0267 that no losses to report at abutment 1.

Pier 1- Put a "1" for the pier number, span 1 to the left and span 2 to the right. Circle "O" and "P" because the pin is in the following span (span 2).

Enter losses for the cantilevered beams in the left half of the sheet (span 1).

Enter losses for the suspended beams in the right half of the sheet (span 2).

Pier 2- Put a "2' for the pier number, span 2 to the left and span 3 to the right. Circle "M" and "N" because there are no pins in the area.

Enter losses for the end of span 2 in the left half of the sheet.

Enter losses for the end of span 3 in the right half of the sheet.

Pier 3- Put a "3'" for the pier number, span 3 to the left and span 4 to the right. Circle "K" and "L" because the pin is in the preceding span (span 3).

Enter losses for the suspended beams in the left half of the sheet (span 3).

Enter losses for the cantilever beams in the right half of the sheet (span 4).

Abutment 2- Say this abutment has losses. Cross out "PIER" and write in "ABUT 2" in the center column. Put span 4 in the left side, cross out the right side of the form.
Enter losses for the abutment end of span 4 in the left half of the sheet.

GENERAL INSTRUCTIONS

Number sheets consecutively in order of increasing span number. Put the bridge ID on all sheets in case they become separated.

Observe the span and beam numbering and orientation conventions. Use the direction of traffic for determining orientation rather than compass direction.

Photographs are highly recommended. In labeling photographs, use the same convention as on the forms. Numbering the photographs and indicating on the form locations of photos by numbers if recommended.

Please check photocopies for legibility before transmitting.

WHERE TO SUBMIT

Send copies to:

Bridge Management Unit, C&T Division
Bridge Operations Unit
8885 Ricks Road
P.O. Box 30049
Lansing, MI 48909

Special Structures Unit, Design Division
425 W. Ottawa
P.O. Box 30050
Lansing, MI 48909

Structures Maintenance, Maintenance Division
6333 Old Lansing Road
Lansing, MI 48909

QUESTIONS

Contact Robert Kelley of Bridge Management Unit, C&T Division
(517) 322-1398
E mail: kelleyr@michigan.gov

10-Feb-00 3:38 FROMs.wb3

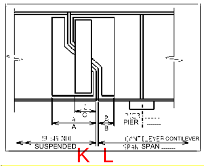
MDOT Michigan Department of Transportation

Form 0267-1 (03/02)

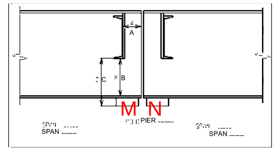
DETAILED BEAM SURVEY REPORT

(WELDED GIRDER OR ROLLED BEAM)

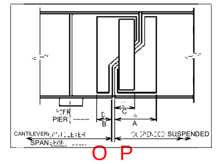
USE this form when TRAFFIC ON BRIDGE IS : WEST or EAST Bnd.



IF at .pin & hanger.. THIS Side of pier



IF at .... PIER ...



IF at . pin & hanger..THIS Side of pier

PAGE______OF______

FACILITY CARRIED: ____________________

INSPECTED BY: ____________________ DATE:______________

STRUCTURE NO. ____________________ REGION______________

ALWAYS **CIRCLE ABOVE** TO NOTE **APPLICABLE CASE** USED IN FORM

COMMENTS & references to photos and sketches

DETAILS FOR **span** ___ FROM **w** — ex. span 1 w

INSPECTION AT **PIER** ___ FROM **W** — ex. PIER 1 w

DETAILS FOR **span** ___ FROM **w** — ex. span 2 w

REPORT CASE — *Traffic:* ***WEST / EAST*** — Bridge ID

BEAM LINE #	WEB LOSS MEASUREMENTS: THICKN. LOST	HEIGHT RANGE START	HEIGHT RANGE end	LENGTH RANGE START (INCHES)	LENGTH RANGE end	FLANGE LOSS MEASUREMENTS: MEASURED ACTUAL THICKN.	LOSS WIDTH RANGE START	LOSS WIDTH RANGE end	LOSS LENGTH RANGE START (INCHES)	LOSS LENGTH RANGE end	A in.	B in.	C in.
FASCIA 14 S													
INTERIOR 13 S													
12 S													
11 S													
10 S													
9 S													
8 S													
7 S													
6 S													
5 S													
4 S													
3 S													
INTERIOR 2 S													
FASCIA 1 S													

BEAM END #		PIER center line		BEAM END #
14 S				14 S
13 S				13 S
12 S				12 S
11 S				11 S
10 S				10 S
9 S				9 S
8 S				8 S
7 S				7 S
6 S				6 S
5 S				5 S
4 S				4 S
3 S				3 S
2 S				2 S
1 S				1 S

WEB LOSS MEASUREMENTS: THICKN. LOST	HEIGHT RANGE START	HEIGHT RANGE end	LENGTH RANGE START (INCHES)	LENGTH RANGE end	FLANGE LOSS MEASUREMENTS: MEASURED ACTUAL THICKN.	LOSS WIDTH RANGE START	LOSS WIDTH RANGE end	LOSS LENGTH RANGE START (INCHES)	LOSS LENGTH RANGE end	A in.	B in.	C in.	BEAM LINE #
													14 S FASCIA
													13 S INTERIOR
													12 S
													11 S
													10 S
													9 S
													8 S
													7 S
													6 S
													5 S
													4 S
													3 S
													2 S INTERIOR
													1 S FASCIA

COMMENTS & references to photos and sketches

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BRIDGE OPERATIONS UNIT, CONSTRUCTION AND TECHNOLOGY DIVISION, PH. (517) 322 - 1398 FAX (517) 322 - 5664

K M O ← → L N P

any freehand drawing this span

any freehand drawing this span

10-Feb-00 3:40 FROMw.wb3

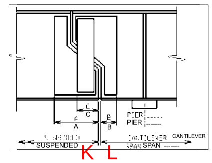
MDOT Michigan Department of Transportation

Form 0267-2 (03/02)

DETAILED BEAM SURVEY REPORT

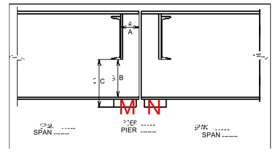
(WELDED GIRDER OR ROLLED BEAM)

USE *this form when TRAFFIC ON BRIDGE IS :* ***SOUTH or NORTH Bnd.***

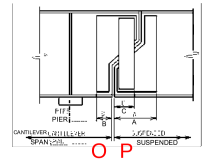


IF at .pin & hanger.. THIS Side of pier

SUSPENDED



IF at .... PIER ...



IF at . pin & hanger..THIS Side of pier

PAGE______OF______

FACILITY CARRIED: ____________________

INSPECTED BY: ____________________ DATE:____________

STRUCTURE NO. ____________________ REGION____________

ALWAYS **CIRCLE ABOVE** TO NOTE **APPLICABLE CASE** USED IN FORM

DETAILS FOR **span** ____ FROM **S** — ex. span 1 S

INSPECTION AT **PIER** ____ FROM **S** — ex. PIER 1 S

DETAILS FOR **span** ____ FROM **S** — ex. span 2 S

COMMENTS & references to photos and sketches

BEAM LINE #	WEB LOSS MEASUREMENTS THICKN. LOST	HEIGHT RANGE START	HEIGHT RANGE end	LENGTH RANGE (INCHES) START	LENGTH RANGE end	FLANGE LOSS MEASUREMENTS MEASURED ACTUAL THICKN.	LOSS WIDTH RANGE START	LOSS WIDTH RANGE end	LOSS LENGTH RANGE (INCHES) START	LOSS LENGTH RANGE end	A in.	B in.	C in.
FASCIA 1 W													
INTERIOR 2 W													
3 W													
4 W													
5 W													
6 W													
7 W													
8 W													
9 W													
10 W													
11 W													
12 W													
INTERIOR 13 W													
FASCIA 14 W													

REPORT CASE

Traffic: *SOUTH / NORTH*

Bridge ID

BEAM END #		PIER center line		BEAM END #
1 W				1 W
2 W				2 W
3 W				3 W
4 W				4 W
5 W				5 W
6 W				6 W
7 W				7 W
8 W				8 W
9 W				9 W
10 W				10 W
11 W				11 W
12 W				12 W
13 W				13 W
14 W				14 W

COMMENTS & references to photos and sketches

WEB LOSS MEASUREMENTS THICKN. LOST	HEIGHT RANGE START	HEIGHT RANGE end	LENGTH RANGE (INCHES) START	LENGTH RANGE end	FLANGE LOSS MEASUREMENTS MEASURED ACTUAL THICKN.	LOSS WIDTH RANGE START	LOSS WIDTH RANGE end	LOSS LENGTH RANGE (INCHES) START	LOSS LENGTH RANGE end	A in.	B in.	C in.	BEAM LINE #
													1 W FASCIA
													2 W INTERIOR
													3 W
													4 W
													5 W
													6 W
													7 W
													8 W
													9 W
													10 W
													11 W
													12 W
													13 W INTERIOR
													14 W FASCIA

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K M O ← | → L N P

any freehand drawing this span

any freehand drawing this span